

Fig. 4

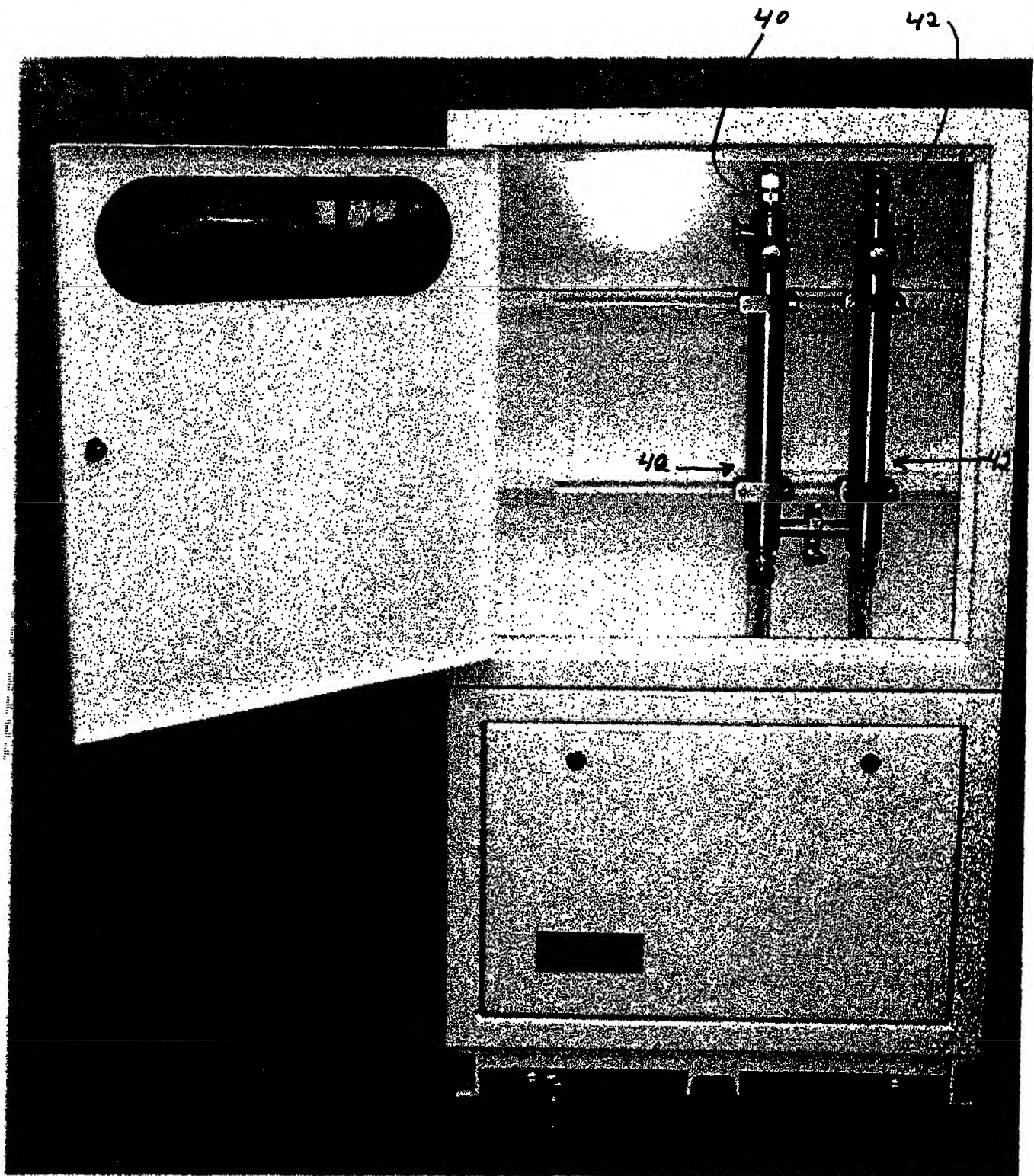
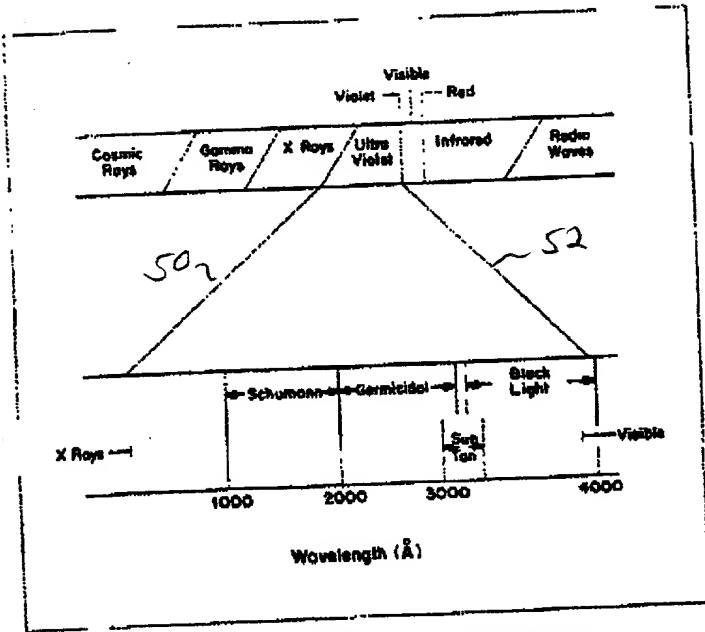
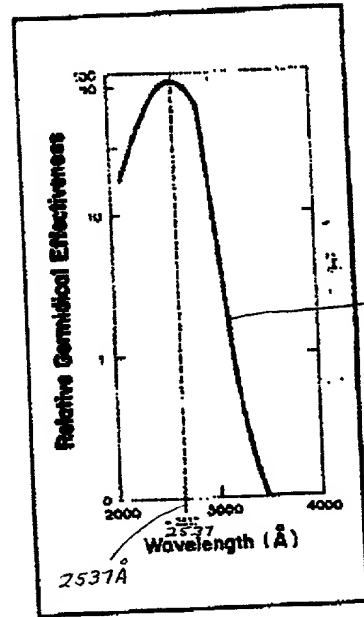


FIG. 5



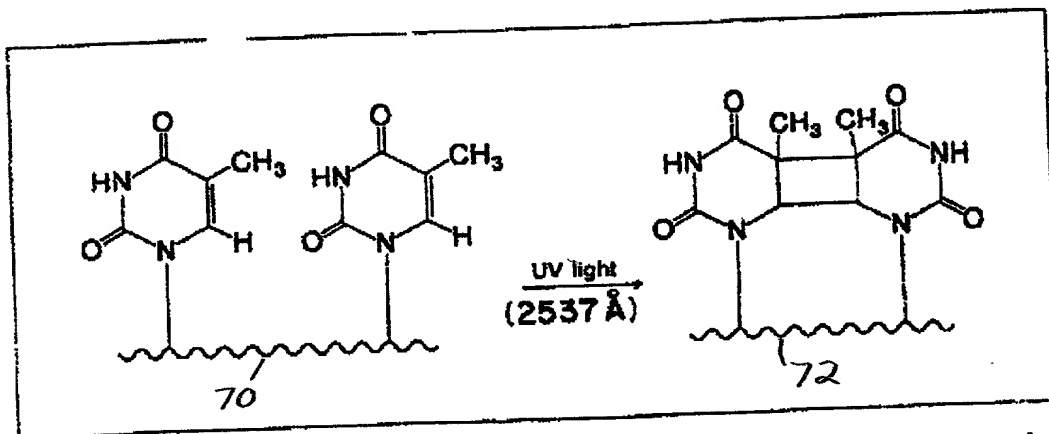
Electromagnetic spectrum (enlargement of ultraviolet region).

FIG. 6



Bacterial effectiveness curve showing the relative effectiveness of various wavelengths in killing bacteria.

FIG. 7



Ultraviolet light causes adjacent thymines (or cytosines) in DNA to dimerize. The rippled lines at the bottom of the structures represents the deoxyribose-phosphate backbone of the DNA strand.

FIG. 8

Result of E- Coli Culture Tests on E-Coli 0157:H7

Culture Read on Cider 9/4/98 (Blood Agar Plates - 3 Dilutions)

	Cider SIAD Treated 1	Cider SIAD Treated 2	Cider Control E. coli-Not Treated	Cider Cont No E. Coli
.5cc	No Growth	No Growth	Confluent Growth	No Growth
.1cc	No Growth	No Growth	Some Confluent Growth >10,000 col/ml E.Coli	No Growth
.001cc	No Growth	No Growth	75,000 col/ml E. Coli	No Growth

FIG. 9

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5 GAL TROPICANA GROVESTAND LOTS OF PULP ORANGE JUICE ASSOCIATED WITH COLONIALES 1988

LINE	ITEM	QTY	UNIT	PRICE	AMOUNT	TAX	TOTAL
1	100	10		70	700	10	710
2	100	10		70	700	10	710
3	100	10		70	700	10	710
4	100	10		70	700	10	710
5	100	10		70	700	10	710
6	100	10		70	700	10	710
7	100	10		70	700	10	710
8	100	10		70	700	10	710
9	100	10		70	700	10	710
10	100	10		70	700	10	710
11	100	10		70	700	10	710
12	100	10		70	700	10	710
13	100	10		70	700	10	710
14	100	10		70	700	10	710
15	100	10		70	700	10	710
16	100	10		70	700	10	710
17	100	10		70	700	10	710
18	100	10		70	700	10	710
19	100	10		70	700	10	710
20	100	10		70	700	10	710
21	100	10		70	700	10	710
22	100	10		70	700	10	710
23	100	10		70	700	10	710
24	100	10		70	700	10	710
25	100	10		70	700	10	710
26	100	10		70	700	10	710
27	100	10		70	700	10	710
28	100	10		70	700	10	710
29	100	10		70	700	10	710
30	100	10		70	700	10	710
31	100	10		70	700	10	710
32	100	10		70	700	10	710
33	100	10		70	700	10	710
34	100	10		70	700	10	710
35	100	10		70	700	10	710
36	100	10		70	700	10	710
37	100	10		70	700	10	710
38	100	10		70	700	10	710
39	100	10		70	700	10	710
40	100	10		70	700	10	710

NOTE: SUGAR CONTENT REMAINED CONSTANT IN ALL TRIALS

NOTE: SUGAR
TEMP1=LAMP1

TEMP2=LAMP2

INSTANT IN ALL TRIALS
TUBE1=(IN)OUTSIDE
TUBE2=(OUT)OUTSIDE

TEMP3=JUICE IN
TEMP4=JUICE OUT

LAMP(W)=LAMP1
ECOLL 100%=10LOG

F16.10

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TEST ON E-COLI (ATCC11229) INOCULATED ORANGE JUICE

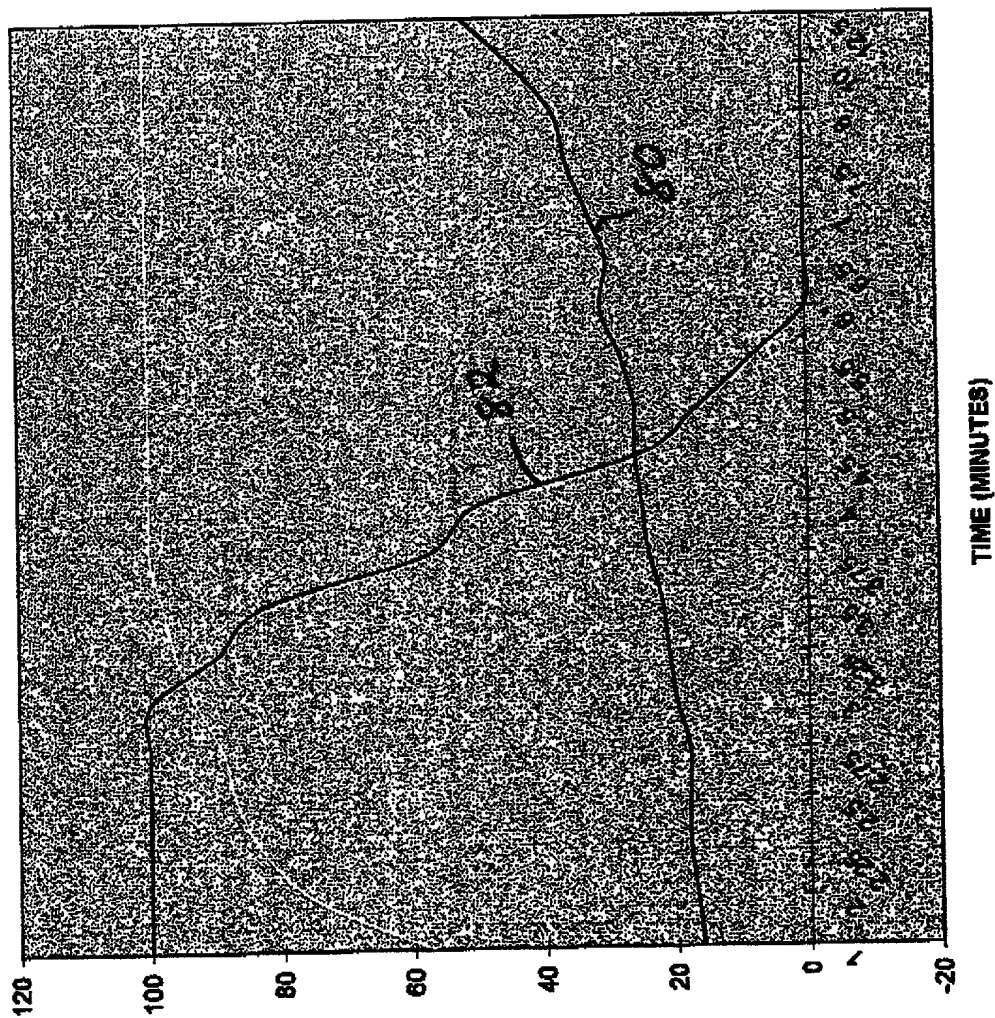


FIG. 11

5 GAL. TROPICANA GROVESTAND "LOTS OF PULP" ORANGE JUICE INOCULATED WITH E-COLI ATCC 25922

TRIAL	TIME(MIN)	TEMP1(F)	TEMP2(F)	PRIM.1	PRIM. E	LAMP(W)	GPM	TUBE1(F)	TUBE2(F)	TEMP3(C)	TEMP4(C)	ECOLI(%)
1	1	175	175	8.5	238	2008.00	10	70	70	16	16	100
2	2	225	225	10.8	238	2548.80	10	70	70	16	17	100
3	2.25	235	235	11	238	2598.00	10	70	72	17	18	100
4	2.5	240	240	11.5	236	2714.00	10	72	74	17	18	100
5	2.75	245	245	11.5	235	2702.50	10	73	75	18	18	100
6	3	250	250	11.8	235	2773.00	10	75	78	18	20	100
7	3.25	280	280	11.8	235	2773.00	10	75	78	20	22	92
8	3.5	270	270	12.5	235	2937.50	10	76	80	21	22	83
9	3.75	280	280	13.3	235	3125.50	10	78	82	21	24	58
10	4	300	300	13.3	235	3125.50	10	80	85	23	25	50
11	4.5	300	300	13.3	235	3125.50	10	82	88	23	28	50
12	5	300	300	13.3	235	3125.50	10	85	90	25	26	50
13	5.5	300	300	13.3	235	3125.50	10	87	92	26	28	41
14	6	300	300	13.3	235	3125.50	10	88	93	26	30	41
15	6.5	300	300	13.3	238	3138.80	10	92	95	28	30	25
16	7	300	300	13.3	235	3125.50	10	95	100	30	33	8
17	7.5	300	300	13.3	235	3125.50	10	100	105	32	36	0
18	8	300	300	13.3	235	3125.50	10	100	105	34	37	0
19	10	300	300	13.3	235	3125.50	10	100	105	38	42	0
20	12.5	305	305	13.3	235	3125.50	10	110	112	43	51	0

NOTE: SUGAR CONTENT REMAINED CONSTANT IN ALL TRIALS

TEMP1=LAMP1

TEMP2=LAMP2

TUBE1=(IN)OUTSIDE

TUBE2=(OUT)OUTSIDE

TEMP3=JUICE IN

TEMP4=JUICE OUT

LAMP(W)=LAMP1

ECOLI 100%=10LOG

FIG. 12

TEST ON E-COLI (ATCC 25922) INOCULATED ORANGE JUICE

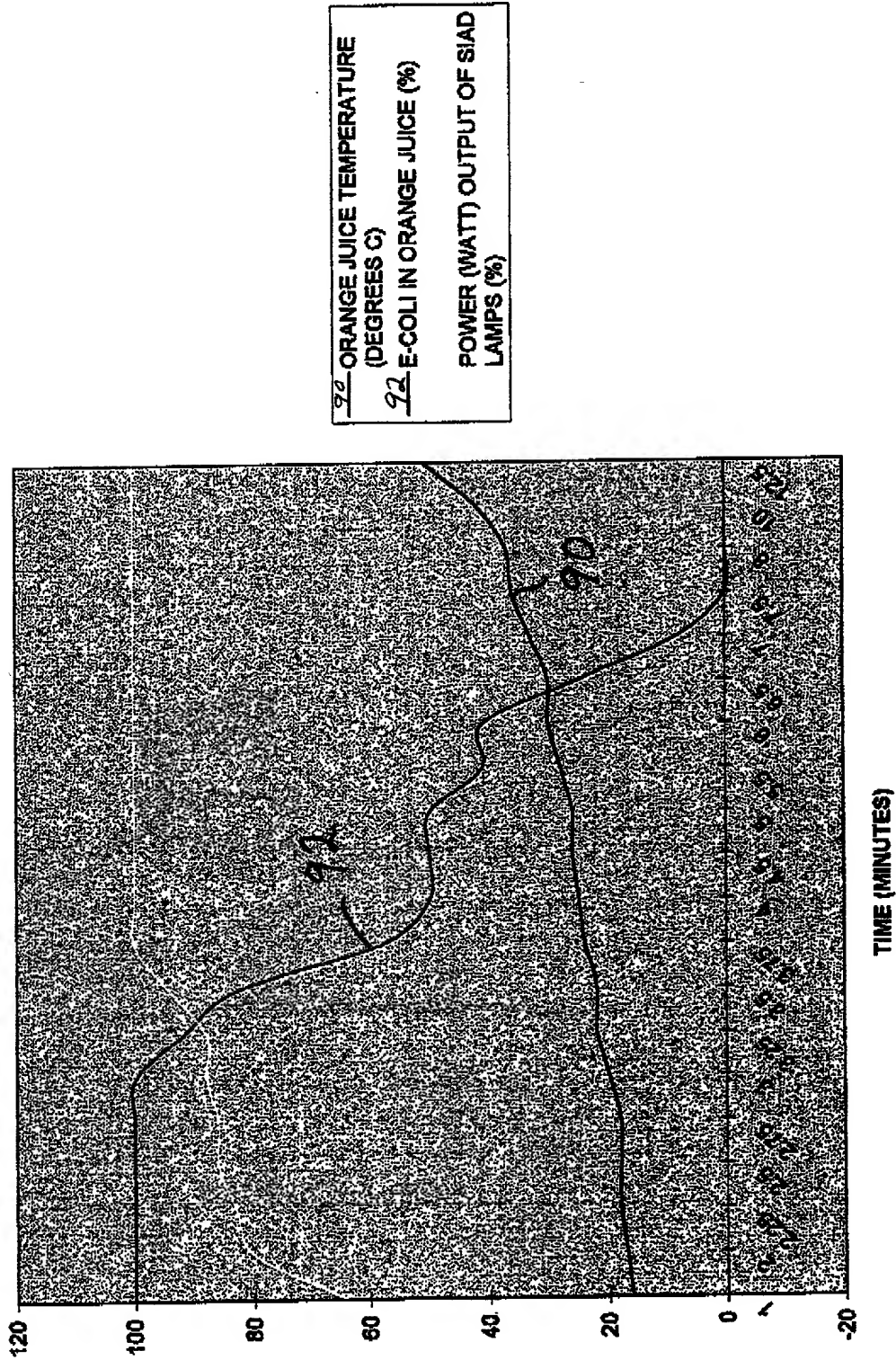


FIG. 13